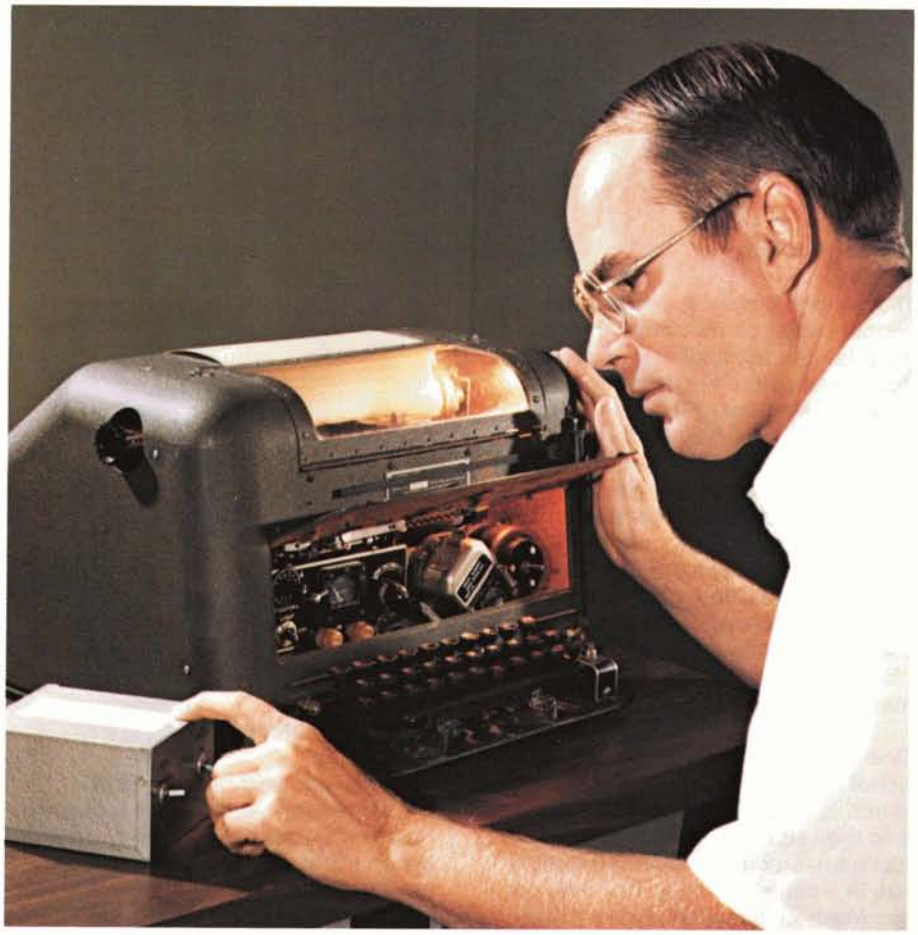

Teletype Tester

In the United States, more than 12,000 homes of deaf people are equipped with a system that enables the deaf to communicate by telephone. It consists of a teletype machine hooked up to an "acoustic coupler." The deaf person taps out a message on the teletype keyboard and the acoustic coupler converts teletype pulses into audio signals that can be sent over phone lines. At the other end, another coupler reconverts the signals to activate the teletype's printer and provide a readable message.

Though a boon to the deaf, the system presents a problem when something goes wrong. It is difficult to pinpoint the trouble because of the multiple units involved—the teletype's keyboard or its printer, the coupler's sending circuit or its receiving circuit. Finding the trouble is time-consuming and it usually involves removing the equipment from service, leaving the deaf person temporarily without communication. Seeking an answer to this difficulty, NASA's Biomedical Applications Team at Research Triangle Institute, North Carolina, circulated a problem statement to NASA field centers. Langley Research Center responded by developing a compactly-packaged portable Teletype Test Unit.

Shown at left in the upper photo, the unit generates perfect test signals like those sent or received by the teletype system's various components. By testing each component separately, a technician can quickly identify the defective part; often he can adjust it without removing the equipment from service. The unit also serves as a tool for preventive maintenance, providing a perfect signal source for adjusting circuits or machinery. Langley Research Center has produced several prototypes which are undergoing evaluation at Greensboro, North Carolina, at the Atlanta (Georgia) Association for the Deaf, and at Gallaudet College, Washington, D.C.